THE
BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXXIV. THURSDAY, JULY 26, 1866. No. 26.

SOME CONSERVATIVE MEASURES REQUIRED IN CERTAIN DISEASES OF THE EYE.

[Read to the Massachusetts Medical Society, at the Annual Meeting held in Boston in May, 1866, and communicated for the Boston Medical and Surgical Journal.]

By HENRY W. WILLIAMS, M.D.

THERE are certain conditions of the eye, now far better understood than formerly, which not only call for alleviation by the resources of our art, but in which it is often in the power of the general practitioner to avert future serious injury, or even loss of vision, by advising early preventive, or, as they might not improperly be termed, hygienic measures.

As several of these are connected with anomalies or disturbances of the refractive power of the eye, I will briefly state the conditions under which vision is exercised in the normal state.

When at rest, a healthy eye is adapted to bring parallel rays to a focus upon its retina, so as to form a distinct image there. If the rays are divergent (as are all rays coming from near objects), a normal eye must exert its faculty of accommodation in order to adapt itself, by a change of form and increase of convexity of the crystalline lens, to bring such rays to a focus in the same manner as if they had entered the eye in a parallel direction.

Presbyopia.—The first question which it is proposed to consider, is one which comes home, at some time in their lives, to most of the members of this honorable body, and which must therefore refer to a normal, not a pathological phenomenon. "Do I need glasses?" "Is it better to put on glasses?" asks many a possessor of a healthy pair of eyes. The difference of opinion among well-informed persons as to this point must be my excuse for explaining in a few words when and wherefore they are needed.

It has been already stated that in order to see small near objects, an effort of accommodation is necessary; which is accomplished by the agency of the ciliary muscle and the crystalline lens. But, from the period of youth to advanced age, the crystalline becomes gradually harder and harder, and less susceptible of a change of form, and at about the age of 45, in most persons who are not short-sighted, its convexity can no longer be sufficiently increased by the action of the ciliary muscle to effect the requisite refraction for reading at the ordinary distance. But, if the page be more strongly illuminated, or the book held farther off, so as to render the rays less divergent, reading may still be continued for a time. Gradually, however, reading, writing and sewing become more difficult, and are accompanied and followed by sensations of fatigue in and around the eyes.

Evidently, it is absurd to contend against this change, and endeavor to force the eyes to do, painfully, what the aid of a glass will enable them to do with ease. The accommodative power is really lessened—we cannot restore to the hardened crystalline the flexibility it possessed in youth—and a strained continuous effort to perceive small objects can only favor the production of morbid changes in the nervous structures. But, by placing before the eye a convex glass of low power, we take away the necessity for so much accommodation by rendering the rays nearly parallel before they reach the eye; and can thus relieve it from fatiguing effort, and place it, virtually, in a normal condition.

Patients are often told, by their friends, that if they can do without glasses for a while they will never be obliged to wear them—and that such or such a person, much their senior, has never needed glasses because he would not put them on at the usual period of middle life. Such seeming exceptions are found in those who were, though perhaps unconsciously, more or less short-sighted in early life, and they serve to confirm rather than invalidate the rule laid down.

When asked, therefore, by patients, "ought I to wear glasses?" if we find symptoms of presbyopia or old-sightedness; if we learn that the person requires more light, and places objects at a greater distance than formerly, without even then being able to see with perfect distinctness; and if we ascertain upon trial that these symptoms are entirely relieved by convex glasses—we reply unhesitatingly, yes! advising, however, that the glasses should be only of such power as to render objects distinct at a convenient distance.

The same reasons which require that glasses should be assumed at a proper time demand also an increase of their power, as age advances, whenever those previously worn begin to be insufficient to compensate for the constantly increasing inaptitude of the crystalline.

Asthenopia.—We meet with frequent instances where inability exists to use the eyes continuously upon small objects, even much earlier than the middle period of life, and before the crystalline lens has undergone transformation. This is termed asthenopia, and depends mostly upon two causes—either a loss of accommodation resulting from enfeebled power in the ciliary muscle (which often ensues after measles, diphtheria, or exhausting diseases), or a deficient refractive power of the eye depending on a too short axis in its antero-posterior diameter. This latter condition, which is termed hyperopia, or hypermetropia, is by far the most frequent cause of asthenopia, and, as will be shown, often requires convex glasses for its complete relief.

Hyperopia.—The symptoms of asthenopia depending on hyperopia are so graphically given by Prof. Donders, that I copy his report of the examination of a case:—

"Miss H., aged 19, is announced. She has a florid look, clear eyes, without a trace of disease, blue iris, mobile pupil, not a very deep globe, flat margins to the socket; the visual axes appear to diverge. I suspect asthenopia. I make her read and bring the book to 6″: reading becomes difficult; at 5″ it is impossible. There is either hypermetropia or diminished accommodation. My eye falls on those about her; I see a brother with convergent strabismus. This was decisive in favor of hypermetropia. 'You cannot persevere with your work?' She answers, 'No.' 'On exertion you get a feeling of tension over the eyes, press upon the part with the hand, rub over the closed eyes, and then it passes off, but only for a short time?' 'Precisely,' is the answer. Confidence is gained. 'You have no pain in the eyes?' 'At a distance you see well?' 'Yes.' 'After a long rest you can continue your work better?' 'Yes.' With a glass of 18 inches' focus she distinguishes well at a distance, and on moving the glasses, for the first moment not so well; with 16 not so acutely as with 18; with 24 not more acutely; between the two eyes there is little difference. Ophthalmoscopically, all is well. I learn further, that for some years the inconvenience felt in working has been always increasing; that formerly, when weakened by fever, she could for a time neither read nor sew; that she once tried a pair of spectacles, but was strongly cautioned against wearing them. She gets spectacles of 16 inches to work with, with a recommendation now and then to pause for a little, and at first not to do much in the evening. At the end of a week she has forgotten her ailment."

Hypermetropia is usually hereditary. Young persons in whom this conformation of the eye is present, are compelled to use a portion, often a large portion of their accommodative power in bringing parallel rays from distant objects to a focus upon the retina, and this power is thus kept constantly in exercise, leaving very little accommodation to assist them in seeing small near objects. As in the case just reported, glasses are often needed for seeing even distant things, in order to obviate the fatigue attending continuous accommodative effort, and in many instances they are indispensable for near vision, especially if the eyes are to be continuously used.

Strabismus.—It has been proved by Prof. Donders that hypermetropia is the almost invariable accompaniment, and, in fact, cause of convergent strabismus. A word respecting this latter affection may therefore be appropriate in this connection.

With the action of the ciliary muscle upon the crystalline lens, in effecting accommodation, to which allusion has already been made, we have an associated auxiliary action of the internal recti muscles of the globe. The hyperopic eye, having to employ a great part of its accommodative power in obtaining clear perception of distant objects, endeavors to reinforce this power, when looking at things near the eye, by bringing into play the internal recti. Convergence is thus produced, which, at first a temporary, becomes at length, by frequent repetition, a confirmed squint.

Up to a certain point, the strabismus may be remedied by removing the necessity for convergence by means of convex glasses; but if the case has been misunderstood in the beginning, or the child is too young to allow of the choice of glasses, and the abnormal deviation of the eye is allowed to continue unrectified, other consequences follow; the eye which squints most, being turned in such a direction that images are not found on a portion of its retina corresponding to the spot where the image falls in the other eye, gradually ceases to take notice of the less distinct impression thus received, and loses, in a greater or less degree, its perceptive power; becoming at length incapable of any distinct vision. It follows, therefore, that the deformity existing in cases of strabismus is but the least of the evils inherent to it, and that it is an affection by no means to be temporized with. No mistake could be greater than that of parents who delay having an operation performed upon their children until the child shall be old enough to judge for itself; as by that time the visual power will have become so far enfeebled that it can never be fully restored; and, though the operation may still be done for the improvement of the looks, it no longer confers the greater benefit of much improved vision.

Myopia.—Myopia, or short-sightedness, was formerly regarded as merely an infirmity, and in fact many persons congratulated themselves on being the subjects of it, supposing their eyes to be stronger than those of others. We now know that this is an affection of the gravest character when it exists in a high degree—involving, if not most carefully managed, great danger of ultimate loss of vision.

As hypermetropia is due to abnormal shortness of the antero-posterior axis of the eyeball, so myopia depends on an elongation of this axis—the extension taking place, mostly, at the expense of the posterior half of the globe, and the eye assuming the form of an egg.

These changes are sometimes uniform, the external tunics gradually yielding, and the retina accommodating itself to their distension until its nervous elements, diluted by being thus spread over a larger surface, become enfeebled in their perceptive power. But a special tendency to give way exists in that portion of the sclerotica which surrounds the entrance of the optic nerve, and a cup-like protrusion backwards is there found, to which we give the name of posterior staphyloma.

In proportion as changes occur, the tunics of the eye become less and less able to resist further encroachments, and other secondary alterations may finally supervene, involving the retina, choroid, vitreous and crystalline.

The staphylomatous transformation may be clearly seen, by means of the ophthalmoscope, in most of even moderately near-sighted eyes; and its progressive development, should this take place, as well as the subsequent phenomena which are liable to occur, may be watched by the aid of the same instrument.

Most myopic eyes are so by inheritance, and the period at which progressive staphyloma is most liable to be developed, is that when the eyes are, as a rule, most used for small objects—say between 12 and 20 years of age. If this period be safely passed, the danger that pathological changes will be set up is greatly lessened; but it should be borne in mind that the incautious use of the eyes during adolescence may induce a train of morbid processes which no subsequent prudence and no treatment can arrest.

At first, such a patient is only conscious of increasing short-sightedness, which seems to be relieved by taking stronger and stronger concave glasses; but, if at this time we test the distinctness of vision, we often find it considerably below the normal standard, even with the glasses which render most assistance. No other symptoms may be observed as a warning of impending misfortune, till, perhaps, about middle age, or even as early as 30 years, vision is suddenly almost entirely lost, and, on looking with the ophthalmoscope, we find that the retina has become separated from the choroid by effusion beneath it, or opacities have been formed in the vitreous humor.

It lies with the family physician to prevent these evils. If consulted by patients who wear strong concave glasses, indicating a high degree of myopia, he may render them infinite service by cautioning them against too long continued use of their eyes (especially with the head bent down, as in writing or sewing) or using them in an insufficient light;—and he should warn such persons, if parents, that their children will probably inherit a tendency to myopia, which may be rendered harmless by proper management, or augmented till it acquires formidable proportions by improvident neglect. Such children should not be allowed to study too continuously, and should avoid much close looking at maps, work with the slate, written exercises, or the use of lexicons—since the position in which the eyes are then held favors congestion of their vessels, and otherwise tends to develop and increase the posterior staphyloma. Should this latter condition be discovered to exist during youth, in any considerable degree, it would be of the utmost importance to advise that a boy should not choose a profession requiring too much of his eyes, and that a girl should not devote herself to drawing or needlework.

Sympathetic Inflammation.—Another insidious source of loss of vision is found in the sympathetic inflammation of one eye, arising in consequence of traumatic injury of the other.

We do not observe this affection after operations on one eye, nor, as a rule, after clean incised wounds, however inflicted; but where an eye has been roughly torn, or penetrated by a foreign body, and especially if the injury has implicated the ciliary muscle, or if a foreign body remains within the globe, there is great danger that sooner or later the other eye may be attacked by sympathetic inflammation. This is apparently induced through the medium of the optic nerve, and pathological changes begin insidiously, at the fundus of the globe, implicating the retina and chorid to a serious extent before any pain or injection of the eye calls attention to the fatal mischief which is beginning its ravages. Slight enfeebling of vision is found to have occurred, at an early period, if careful inquiry be made; but it is only at a comparatively advanced stage of the disease that injection of the vessels of the eyeball, and a turbid haziness of the surface of the iris and of the field of the pupil quite characteristic of this affection to a practised eye, attract notice, perhaps too late for efficient treatment.

An eye which has been roughly injured should therefore be carefully watched, and its fellow eye should at the same time be an object of solicitude. Should any continued irritation be kept up in the wounded eye, we should anxiously look out for any diminution of visual power, increased sluggishness in the movements of the pupil, or dulness of color or appearance of congestion in the iris of the other eye—as these may be important indications for treatment.

Once satisfied that morbid processes are being set up in the previously healthy eye, we must not rest content with palliative measures. Nothing less than the immediate removal of the injured globe can secure the safety of the other eye; for experience has amply shown that this, and only this, will arrest the treacherous symptoms which are endangering it. We need the less hesitate, as the wounded eye is almost invariably, in these cases, hopelessly lost; and as the operation is itself only a trivial one, involving no danger and only a day or two of confinement.

The globe may be readily excised by dividing its muscles near their anterior insertion and cutting the optic nerve close behind the eye. The socket is then to be filled with a piece of sponge for twenty-four hours; which is sufficient, without ligature of any vessels, to control the hæmorrhage. Wet compresses are the only dressing needed. The patient is at once relieved, not only of the fearful danger of blindness, but of the wearisome pain often continuously present in and around the injured organ.

Excision of a part or the whole of an injured eye may be resorted to, in cases where it continues for a long time in an irritable state, to relieve the discomfort arising from the deep-seated pain—even though no suspicious symptoms should be observed in the other eye; as the patient is often willing to make a sacrifice of his appearance for the sake of relief and security.

But ablation of every eye which has received severe injury should by no means be made, in hasty trepidation lest possible ill consequences might arise from its preservation. Many a wounded eye, many an eye even, in which a bit of percussion cap or other foreign body has buried itself, does perfectly well, and the intruding substance is in due time eliminated, after a sojourn of from a few weeks to many years, without causing any symptoms which need give rise to anxiety.

While, therefore, such an eye is the seat of only a moderate amount of pain and irritability, it may be alleviated by treatment, and closely watched, whilst more radical measures are deferred;—for an eyeball is worth preserving, even though it may be disfigured and shrunken, since it gives a better support to the lids or to an artificial eye than the empty orbit.

Glaucoma.—One further instance will be cited, in which active conservative measures may be infinitely useful if employed in season. Glaucoma, especially in its acute form, is too often mistaken for circum-orbital neuralgia, and allowed to run its course for weeks or months unchecked, with no other interference than attempts to palliate the pain. But knowing as we do that this disease, though thus making itself felt chiefly in the branches of the fifth pair, in the neighborhood of the eye, really has its origin within the globe, and consists essentially in an increased ocular tension, resulting, if not alleviated, in inevitable loss of vision, but which may be relieved and the patient's failing sight restored in a few seconds by a simple operation, we cannot estimate too highly the importance of such an early diagnosis as will admit of the prompt application of the surgical, and the only known, remedy, which, to be successful, must not be too long delayed.

Glaucoma is believed to begin by a morbid irritability of the ciliary nerves which preside over the secretion of the vitreous humor. The quantity of the latter is thus increased, and its augmented bulk crowds the lens forward against the iris on the one hand, and on the other presses backwards upon the retina and optic nerve, lessening or abolishing their perceptive power, and causing a cup-like depression where the nerve enters the globe, its tissue being more yielding than that of the surrounding sclerotica.

At first this cupped appearance may generally be seen by the aid of the ophthalmoscope; but if the symptoms continue, there is often so much cloudiness of the vitreous, and, at a later period, of the lens, that the fundus of the eye can no longer be explored.

The globe is much increased in hardness, frequently giving a sensation, when pressed upon through the eyelid, as if a marble were under the finger. Complete disorganization of the internal tissues may at last result, the iris and other structures becoming atrophied and the lens opaque.

Among the early symptoms are, an increased presbyopia, requiring the use of stronger convex glasses than would be indicated by the age or previous hypermetropia of the individual; paroxysms of partial blindness, followed by more or less complete remissions; an appearance as if all objects were covered with a white sheet; and, at night, perception of prismatic colors on looking at a light. Should these be complained of, especially if the patient be a female who has passed the critical period of life, and whose nervous system has lately been subjected to depressing influences from grief or anxiety, there would be strong reason to suspect glaucoma. If increased in severity, and particularly if the ophthalmoscopic appearances corroborate the other evidences of abnormal intra-ocular distension, no delay is admissible before resorting to iridectomy.

Mere evacuation of the aqueous humor does not allay the symptoms, as it has little effect on the posterior portion of the globe; but if a segment of iris be removed, quite to its outer margin, the morbid tension and irritability of the ciliary nerves seems to be relieved and the process of hypersecretion is put an end to.

The portion of iris excised should be at its upper part, that the lid may hide the deformity and obviate the annoyance experienced from the entrance of too strong a flood of light into the eye.

Relief from pain and great improvement in vision often immediately ensue; but in most instances, the full benefit of the operation is only obtained after an interval of at least some weeks, during which time the retina and other internal parts slowly recover from the effects of the compression they had undergone. It is frequently the case that the patient subsequently requires strong convex glasses, both for near and distant objects, the accommodative power having seemingly been impaired during the course of the pathological phenomena.

Perhaps surgical art never accomplished a more brilliant achievement than in the application of iridectomy to the relief of glaucoma; where, in some instances, as in a case occurring in the practice of a late President of this Society, the patient could not discern light before the operation, but on the following day could see every feature in her physician's face. But the measures of prevention which have been recommended in speaking of other affections, though less obvious in their results, are by no means of less importance; since we do a patient far greater service, however little he may appreciate it, in averting serious disease which threatens him than in arresting it after it has become established.

Bibliographical Notices.

A Manual of the Principles of Surgery, based on Pathology; for Students. By William Caniff, M.R.C.S. Eng., M.D. of the University of New York; late Professor of Principles and Practice of Surgery, Univ. Victoria College, Toronto, C. W., &c. Philadelphia: Lindsay & Blakiston. 1866. Pp. 402.

The author disarms criticism by stating in the preface to his work, that " this is the first undertaking of the kind in our young country. The writer enjoyed not the advantages of early literary training," &c. And again: " Not having personally superintended the work through the press, there may be found a few blemishes which the proof-reader could not feel at liberty to remove."

Of the four hundred pages contained in this volume, about one hundred and fifty are devoted to Inflammation, that *quæstio vexata* of all authors; fifteen to Healing, and eighteen to Morbid Growths. The other, and larger half, is given up to Wounds, and to Diseases and Injuries of Bones, Joints and Vessels. Nor is even this half devoted entirely to the Principles of Surgery. Diagnosis, Prognosis and Treatment follow close upon Pathology and Principles, on every page, so that it resembles, somewhat, Druitt's Vade Mecum, without the condensation of the latter.

If, therefore, the author compiled this volume as a manual of principles for the student, without embracing the practice of surgery, he has certainly failed, and has made his book too large by one half. But if to quote, condense, and compile the writings of others, to embody all that is good in them in his own work, with the stamp of his approval, and the reservation that many of the measures recommended by them were used independently by himself, before he saw their treatises, be to make a manual of the Principles and Practice of Surgery, then Dr. Caniff has succeeded in his task.

Although he very candidly acknowledges his obligations to various authors, we think we do not err in saying, that his treatise is founded about equally on Paget's Surgical Pathology, Hilton on Pain and Rest, and Hamilton on Fractures. These are the works of masters in surgery; no more judicious selection of authorities could be made. But the conclusion will obtrude itself, that however valuable a compilation might formerly have been to the student, as both shorter and less costly than the authors quoted, it is not of equal value now, when books can be published cheaper in England than in America. And were we students again, we should certainly prefer Paget or Hilton by themselves, to any digest of them which might be undertaken for our benefit. Particularly would this hold true with regard to the illustrations. The original plates of Mr. Paget have not gained anything by the transfer to an American edition, and they are, also, very scanty in number.

We notice, on page 168, that our author still believes in the efficacy of a solution of nitrate of silver to check the spread of erysipelas. And in the article on Frostbite, no notice is taken of recent experiments in Europe, which go to show that congelation destroys and extravasates the blood corpuscles, thus explaining why perfect restoration of circulation cannot take place after a certain degree and continuance of cold.

In speaking of Gun-shot Wounds, he is perhaps too strong in his condemnation of exploration with the finger rather than the probe. The advantage of a tactile surface to estimate the condition of a deep wound can be got by the finger alone, and this advantage is inestimable. Stress enough, to our thinking, is not laid upon the *débridement* of punctured and lacerated wounds—a practice now honored in the breach rather than in the observance; yet, we believe, embodying one of the soundest maxims of surgery.

In his article on Dissecting Wounds, the author gives a very good explanation why certain bodies may be more poisonous soon after death, when they have died of erysipelatous or zymotic diseases, than at a later period, when the poison may be that of decomposition alone.

On the whole, Dr. Caniff's work is conservative, safe and useful. He inclines to simple and mild means first; heroic ones, last. Therein he faithfully follows the best teachings of the English and American schools.

Although containing, and claiming to contain, little new or original, it yet is a sound book in principle and practice to guide the student or the young practitioner. *

Reflex Paralysis; its Pathological Anatomy and relation to the Sympathetic Nervous System. By M. Gonzalez Echeverria, M.D. (Univ. of Paris), Physician to the Charity Hospital, New York, formerly Assistant Physician to the National Hospital for the Paralyzed and Epileptic, of London, &c. &c. New York: Baillière Brothers, 520 Broadway. 1866.

In scientific inquiry there has always been exhibited a tendency to apply to groups of obscure phenomena terms which, while they appear to offer an explanation, really only indicates that research has reached its limit. Such terms are shock, sympathy and paralysis. Many symptoms classed under the first two heads, but a short time since, are now explained by the accurate research of the present day, and no man with any pretence to scientific culture would think of using the word paralysis as final in diagnosis, until he had sought most diligently for its cause. But there still remain a large number of cases of paralysis to which the term "reflex" has been applied, and, as far as we can understand, most properly, as they appear to depend upon peripheral irritation which, reflected through the nervous centres, diminishes or destroys the power of the nerves originating therein.

It happens, unfortunately, that the examinations of the brain and spinal cord, upon which the theory was based, were made with the unaided eye alone, and, no lesion being perceptible, none was supposed to exist. The use of the microscope in this, as in other branches of medicine, has shown, however, that there are changes which cannot be otherwise perceived, and the general term reflex must now yield at least a portion of these cases, which it formerly embraced. The author's position is best stated by himself in the following words:—

"The general term *reflex* used here comprises that peculiar and extensive class of paralyses called functional, idiopathic, asthenic and peripheral. It may be proper to state from the beginning that this name does not imply contraction in the bloodvessels of the spinal cord as a necessary initial cause of the paralysis, nor subsequent absence of structural change in the nervous system as its effect. I keep the word because there is no advantage in coining a new one, when that already created suffices, provided we define its meaning, to guard against looseness of application. Indeed, there should be no objection to call such form of paralysis *reflex*, for several of its varieties attending fever, pneumonia, anæmia, intoxication, &c., could not properly be looked upon as *peripheral* in the true sense of this expression, while to name them *functional* is obviously in opposition to our knowledge that material modification in the organs is essential to disease."

After so generous a definition, covering every obscure case to which no specific lesion can be assigned, we are well prepared for the enumeration of causes as indefinite and general as the definition. They are the following :—

1. Exhaustion of central nervous incitability.
2. General affections and a contaminated state of the blood.
3. Disturbed nutrition by conditions other than the above.
4. Circumfusa; cold, wet, and other atmospheric influences, although these latter more properly belong to those causes acting on the blood.
5. Lesion of the peripheral nervous system.

We do not understand that reflex paralysis originates in the nervous centres, under any circumstances, and unless the exhaustion mentioned followed some external influence it should not be introduced in this connection, and even then not under the head of causes.

With regard to the affections mentioned under the second and third heads, they are too general to be understood sufficiently for criticism.

Circumfusa are shown by many cases to be most powerful in producing the peculiar train of symptoms called reflex, but we should like some proof that they do so by acting on the blood. If physiologists have determined this point by experiments a great step has been gained; but if so, we think that the domain of reflex paralysis is in great danger of being materially circumscribed, as all parts may be directly affected by the circulating blood.

The last cause assigned is the only one so distinctly stated as to be completely understood. This may act in two different ways: either "peripheral morbid influences may travel through a nerve and injure the spinal cord and brain," as is shown by the action of woorara and strychnia on the motory and sensory nerves; or "a peripheral lesion may travel backward through the trunk of a nerve to affect the spinal cord or brain."

The first of these may with propriety be still called reflex; the other is merely an extension of disease from one point to another. The cases of this affection cited are exceedingly interesting, and prove the truth of the author's statement that "there remains an unexplored field of interesting research on the morbid changes undergone by the peripheral nerve fibres and cells."

But the principal aim of the treatise is to show that marked lesions of the nervous centres are found in cases formerly classed under the head of reflex paralysis, and in which no perceptible change could be detected. The details are of the most positive character, such as the photograph alone can give, and must therefore remain as valuable contributions to pathological anatomy, and form a part of a series of exact observations, through which much of the obscurity overhanging the diseases of the nervous system will be finally dispelled.

In connection with the three original cases of the author, others are reported by foreign writers, all of which confirm the belief that microscopic changes frequently exist where to the naked eye the parts appear healthy. The only objection we can make is, that if our ideas of reflex paralysis be correct, some of these cases cannot be classed under that head.

The second chapter contains much interesting matter concerning the agency of the sympathetic system in the production of reflex paralysis; also interesting facts illustrating the hyperæsthesia; changes in the muscles; and the condition of the urine in this disease. Though many points still require elucidation, the treatise contains much which it is important for physicians to understand. **

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.

BY EDWARD JARVIS, M.D., SECRETARY.

A STATED quarterly meeting of the Norfolk District Medical Society was held at City Hall, Roxbury, July 11th, 1866, at 11, A.M. The President, Dr. Cotting, in the chair. The records of the last meeting were read. It appearing that the election of Dr. J. G. S. Hitchcock, of Foxboro', as orator for the next annual meeting, by accident had not been recorded, the election was unanimously confirmed, and ordered to be put on record. The records were then accepted.

Dr. Allen, of Roxbury, Coroner for Norfolk County, read an instructive paper on "The Duties and Liabilities of Coroners, and Medical Witnesses."

The President asked whether the "family physician" of an accused, or of a murdered man, when summoned by a coroner, can be called upon to testify against his consent as an *expert*, touching the previous medical history of the patient, or on other general matters involving medical opinions. Dr. Allen thought not; but a coroner can bind him over to appear as an expert in a superior court. A discussion followed; and Dr. Allen was requested to embody answers to some of the points raised, in a future paper, which he promised.

Dr. Burgess, of Dedham, read a review of the "Year Book," published by the "New Sydenham Society." He cited many useful advances made during the year as therein recorded, but concluded that the book was too diffuse, its articles poorly digested, and on the whole unworthy of the reputation of that Society.

Dr. Fifield, of Harrison Square, read a valuable paper on "Tubercular Meningitis in Adults"; and showed that this disease, so common in children, is much more frequent in adults than generally supposed. Dr. Fifield also argued, from the cases he cited, "the futility of attempting to recognize, by any particular fixed symptoms, any particular fixed lesion of the membranes of the brain."

The President suggested that each member of the Society report henceforth any such cases which may occur in his practice, as the subject had lately acquired great interest in the profession.

Dr. Maynard, of Dedham, read a practical paper on Collodion, the preparation of which he improved upon, and was the first to employ for medical and surgical purposes some twenty years ago.

Drs. Bacon of Sharon, Streeter of Roxbury, Gifford of East Stoughton, Tower of South Weymouth, and others, cited instances of its usefulness in cases under their observation.

Dr. Fifield thought, from experiments on himself, that it would check erysipelas in its *incipient* stages.

Dr. Blanchard, of Neponset, knew individuals on whom its use prevented troublesome sunburn of the face under exposure greater than that which previously had invariably produced much suffering.

Dr. Robinson, of Roxbury, read a paper on "Erysipelas; other cases illustrating its Natural History," written by Dr. Francis, of Brookline, who was unavoidably detained from the meeting.

Dr. E. Stone, of Walpole, read a case of complete suppression of urine, for five or more days, with subsequent return of the secretion in part, for a time.

Dr. Bartlett, of Roxbury, related a similar case, continuing more than two weeks.

The catheter was passed daily in both these cases. There was no urine secreted. Both cases ultimately proved fatal. Autopsies were not allowed.

Dr. Stone also reported the case of his son, Dr. S. E. Stone, now recovering, as all hope, from an immense psoas or abdominal abscess.

The Secretary asked for information respecting deaths, removals, &c., of members, in order to print a new catalogue. Since last catalogue, seven years ago, eleven had died, twelve left the County, and there had been several removals within the District. Twenty-two had joined the Society in the same time.

Dr. J. H. Winkler, of Jamaica Plain, late of Savannah, Geo., a graduate of New York Medical College, having been examined by the Censors, was admitted a member, signed the By-laws, and was introduced to the Society by the President.

After very full and interesting session, the Society adjourned at 2, P.M., and passed the remainder of the afternoon in social reunion at the house of the President, where a collation was provided for them.

M. Corlieu has determined a differential characteristic of idiopathic albuminuria and that caused by an alteration of the kidneys. It is the odor of the urine. In the nervous idiopathic affection asparagus communicates to it the peculiar odor which every one knows. When, on the other hand, there is any change in the structure of the kidneys, as in nephritis, no such odor is communicated. Turpentine and cubebs serve equally well as a diagnostic mark in such cases, according to M. Corlieu.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, JULY 26, 1866.

REGISTRATION REPORT OF MASSACHUSETTS.

The Twenty-third Annual Report, for the year 1864, relating to the Births, Marriages and Deaths in the Commonwealth, has been published, and forms one of the most important State documents. Its preparation has been entrusted, as in previous years, to Dr. Augustus A. Gould, whose deductions and editorial remarks will be found of great interest and value. Such figures and statistics are dry matter, but when correctly collected and judiciously arranged, they furnish results which cannot be too highly estimated in our study of life and death. They dissipate many an ill-founded popular prejudice as well as false theory in science, and the labors of those who thus digest and utilize the results of our observations should be appreciated at their proper value.

A glance at the grand totals of the returns shows that the population of our State is nearly at a standstill, and that the ratio of deaths has increased in a startling manner. Thus there were 30,449 children born alive during the year, and the number of deaths was 28,723. The number of marriages was 12,513. Comparing these numbers with those of the previous year, there is an increase of only 135 births, while the number of deaths has increased by 972. Compared with those of 1860, the number of births is 5,602 less, marriages 109 more, and 5,655 more deaths. The natural increase of the population was in that year 12,983, but now it is only 1726, although the increase of inhabitants is estimated at 30,000. These extraordinary fluctuations may be seen by the following table:—

" *Number of Births, Marriages and Deaths registered in Massachusetts, in each of the years* 1857 *to* 1864, *inclusive.*

Years.	Births.	Marriages.	Deaths.	Excess of Births over Deaths.	Births to 100 Persons.	Deaths to 100 Persons.	Excess of Births in 100 Persons.
1857,	35,320	11,739	21,280	14,040	3·01	1·82	1·19
1858,	34,491	10,527	20,776	13,715	2·89	1·74	1.15
1859,	35,422	11,475	20,976	14,446	2·92	1·73	1·19
1860,	36,051	12,404	23,068	13,983	2·93	1·87	1·06
1861,	35,445	10,972	24,085	11,360	2·86	1·96	·90
1862,	32,275	11,014	22,974	9,301	2·62	1·86	·76
1863,	30,314	10,873	27,751	2,563	2·42	2·22	·20
1864,	30,449	12,513	28,723	1,726	2·42	2·28	·14

"Thus we have a variation, from 1857 to 1864, from 3·01, in one hundred living, to 2·42 in the births; the marriages have fluctuated from 1·07 to 2·00 in one hundred; the deaths from 1·73 to 2 28; and the difference between the births and deaths, or the natural increase, has gone down from 1·19 to ·14 in one hundred persons living."

The population of the State, according to the last census, is 1,267,329, or only 36,263 more than our population in 1860, where-as the gain in the previous five years was 98,687. This diminution is in some measure due to our losses in war and tells a sad story of the cost of that struggle, but other causes must have coöperated which deserve the careful study of our political economists. In six counties, even according to the estimate of the Report, there has been a positive decrease of 9,048 during the last five years. These counties are situated on the coast, and absence in the naval service explains to some extent, in Dr. Gould's opinion, this deficit.

The number of births, as above stated, was 30,449, not including stillborn, of which 15,634 were males, and 14,745 were females. Number of stillborn 856; males 503, females 290. The average decrease compared with 1860 has been 15.65 per cent, ranging from 10.48 in Barnstable to 24.59 in Franklin county. The percentage of decrease in Suffolk has been 12.45. In one county only, Hampden, was there a small increase—2.05 per cent. The season of birth shows, as usual, that procreation is more active in the cold months of the year. The parentage was American in 13,453 cases, foreign in 14,266. a preponderance somewhat less than in previous years, which may be explained by the diminution of immigration during the last few years. There were 297 plural births, of which three were triplets. In the last nine years there has been one case of twins to 104 births, and one triplet case to 11,268 births. The number of illegitimate children returned was 285, or one in 107 births, which, of course, falls far short of the actual number.

The number of marriages, 12,513, considerably exceeded that of any year since 1860, when there were 12,404. In 1863 the number was only 10,873, an increase of 1,640 in one year. The marriage rate in the cities has been one in 65 inhabitants, while in some of the country districts it was as low as one in 121. The average age of all the men married was 28 years and 9 months, and of the women 26 years and 3 months. The widowers who married numbered 2,207, widows 1,520, and the chance of a widow's getting another husband is estimated as about two in three. One female married at 13, 3 at 14, 51 at 15, 113 at 16, and 25 at 17.

The number of deaths for 1864 was 28,723 against 23,596 as the average number for the preceding five years. The comparative mortality of the various districts of the State is illustrated in the following table:

DIVISIONS AND COUNTIES.	Population, 1860.	Deaths to 100 persons living.		
		1864.	1863.	1853–62.
Metropolitan, - - - - -	177,840	2·967	2·642	2·308
North-Eastern, - - - - -	369,352	2·389	2·130	1·742
South-Eastern, - - -	314,999	2·160	2·089	1·674
Midland, - - - - - -	187,132	2·039	2·267	1·717
Valley, - - - - - -	126,623	2·506	2·528	1·776
Western, - - - - - -	55,120	1·916	2·083	1·482

The number of males deceased was 14,964; of females, 13,698. In the first year of life 123 males died to 100 females, and about 116 to 100 under five years; while between the ages of twenty and thirty only 91 males die to 100 females. 18.9 per cent. of all deaths took place in children under one year, and 37.05 per cent. among those under five.

"Dr. Edward Jarvis, of Dorchester, has recently made a curious investigation with a view of comparing the mortality of the American and foreign population in Boston and vicinity, in respect to their ages at death. For this purpose he analyzed the registers of burials at Mount Auburn, where the better class of Americans are buried, and those of the Catholic cemeteries at Charlestown, North Cambridge, and Dorchester, where those buried are mostly of foreign origin. The numbers are the ratios in 10,000 deaths. To his figures the percentages for each period are here added.

AGE.	Mount Auburn.		Catholic Cemeteries.	
	Number.	Percentage.	Number.	Percentage.
Under 1 - - - - -	1,163	28·79	2.877	71·21
" 5 - - - - -	2,796	32·41	5,830	67·59
" 10 - - - - -	3,332	35·56	6,319	64·44
" 20 - - - - -	3,979	37·22	6,713	62·78
20 to 40 - - - - -	2,365	56·42	1,827	43·58
40 to 60 - - - - -	1,591	62·00	975	38·00
60 to 80 - - - - -	447	63·95	252	36·05
80 and over - - - -	101	100·00	–	–

The rate of mortality in the different counties is as follows:—"Dukes, 1.64; Berkshire, 1.91; Barnstable and Nantucket, 2.00; Bristol, 2.12; Franklin, 2.15; Middlesex, 2.20; Norfolk, 2.26; Plymouth, 2.28 (these are below the average for the State, 2.33); Worcester, 2.37; Hampden, 2.58; Hampshire, 2.68; Suffolk, 2.81."

The causes of death are considered at some length by Dr. Gould, and very important conclusions are drawn from the tables with regard to the prevalence of some of the most important diseases. We regret that we have space only for a portion of his introductory remarks, and for a list of the causes.

"There seems to have been no destructive epidemic during this year; and although the number of deaths has been much increased, they seem to have been due to a general sanitary condition acting on all causes of death, rather than to the spread of any one disease. Zymotic diseases indeed, on the prevalence of some one of which the health of a season usually depends, have fallen off three per cent. from the preceding year; though they were not down to the average for twenty-three years. Constitutional diseases were slightly less, and much less than the average for many preceding years. Local diseases were slightly increased, though about the same as for preceding years; and so also with Developmental diseases, in which there has, however, been a gradual decrease for several years. Violent deaths bear a much larger proportion than ever before, 2.20 per cent. of all deaths; while the average for twenty-three years was only .29 of one per cent., owing of course to the large number (634) reported 'killed in battle.'

"Smallpox, measles and scarlatina were more prevalent than usual, while diphtheria, croup and whooping cough were less so. The percentage of deaths from phthisis has gone on diminishing for five years, and has gone down from 19.34 per cent. of all deaths to 16·40 per cent., the average for twenty-three years being 20·77 per cent. The most lamentable cause of mortality, more so than even the casualties of battle, is death from 'privation'; from this cause 116 deaths are recorded—all of them from treatment in rebel prisons. Diseases of the brain and nervous system were considerably increased, while those of the organs of circulation were diminished. . . . .

"It is not a little surprising to see the constancy with which the principal diseases, indeed all diseases, succeed each other in the order of fatality. Consumption always heads the list, and numbers more victims than any other three diseases. Pneumonia stands second or third. The miasmatic diseases which follow, vary somewhat in place from year to year, according as one or the other is epidemic."

The causes alphabetically arranged, are as follows:—Abortion, 2; abscess, 56; abscess, lumbar, 3; anæmia, 82; aneurism, 7; angina pectoris, 3; apoplexy, 321; ascites, 22; asthma, 53; bowels, disease of, 26; brain, disease of, 281; brain, softening of, 46; bronchitis, 194; burns and scalds, 137; carbuncle, 3; casualty, 303; cancer, 330; cephalitis, 728; childbirth, 163; cholera, 95; cholera infantum, 1198; chorea, 1; cold water, 1; consumption, 4733; convulsions, 453; croup, 768; cyanosis, 26; cystitis, 7; debility, 113; delirium tremens, 49; diabetes, 31; diarrhœa, 589; diphtheria, 1231; dropsy, 502; drowned, 179; dysentery, 1186; dyspepsia, 20; enteritis, 271; epilepsy, 61; epistaxis, 3; erysipelas, 186; exposure, 6; fever, intermittent, 9; do. remittent, 39; do. typhus, 1344; fistula, 1; fits, 105; fracture, 51; frozen, 2; gastritis, 77; gout, 3; gravel, 15; heart disease, 768; heat, 15; hæmorrhage, 69; hepatitis, 45; hernia, 25; hip disease, 15; homicide, 9; hydrocephalus, 446; hydrophobia, 1; hydrothorax, 39; ileus, 63; infantile, 1293; inflammation, 31; influenza, 29; insanity, 64; intemperance, 93; intussusception, 2; ischuria, 3; jaundice, 26; joint disease, 8; kidney disease, 81; killed in battle, 634; laryngitis, 14; liver disease, 150; lost at sea, 104; lungs, disease of, 61; malformation, 25; malignant pustule, 2; measles, 320; metria (puerperal fever), 42; metritis, 5; mortification, 36; murder, 1; necrosis, 2; nephria, 13; nephritis, 36; neuralgia, 13; noma (canker), 93; old age, 1421; ovarian dropsy, 22; paralysis, 473; paramenia, 4; pericarditis, 11; peritonitis, 54; phlebitis, 3; pleurisy, 104; pneumonia, 1801; poisoned, 26; prostate, disease of, 11; purpura and scurvy, 27; quinsy, 43; railroad accident, 90; rheumatism, 98; scarlatina, 1503; scrofula, 151; skin disease, 14; small-pox, 242; spina bifida, 3; spine disease, 73; starvation, 105; stomach disease, 41; strangulation, 6; stricture of urethra, 1; suddenly, 28; suffocation, 24; suicide, 65; surgical operation, 9; syphilis, 37; tabes mesenterica, 273; teething, 251; tetanus, 11; thrush, 4; tumor, 55; ulcers, 10; ulcer, intestinal, 13; unknown, 546; uterus, disease of, 18; whooping cough, 235; worms, 26.

The interesting paper on the effect of intemperance on mortality, by Dr. Jarvis, which appeared in the JOURNAL, finds a place properly in the Report. There is also a valuable chapter on War Statistics, with tables illustrating the percentage of deaths by disease, battle and starvation of Massachusetts soldiers, and many other details of interest, which we must leave unnoticed.

It is greatly to be regretted that so valuable a collection of medical statistics cannot be more widely distributed among the profession.

The Boston Medical Register, for the year commencing June 1, 1866, is just issued under the editorship of Charles H. S. Davis, M.D., in a neat and convenient form, and will without doubt be favorably received by the profession of this city. It has been prepared with care, and for a first attempt contains but few mistakes. A few omissions, a few additions, and some little change in the arrangement will make it all that is desired another year. It contains a monthly calendar, with the days of meetings of the various medical societies in the city throughout the year, the Code of Ethics of the American Medical Association, a list of officers of the Massachusetts Medical Society, the Suffolk District Medical Society, officers and members of the Boston Medical Association, of the Society for Medical Improvement, Society for Medical Observation, Obstetrical Society, Boylston Medical Society and the Massachusetts Medical Benevolent Society; a history of the foundation of the Medical Department of Harvard University, with a list of instructors and graduates of the present year; a notice of the New England Female Medical College; a list of the medical board of the following hospitals and institutions:—Massachusetts General Hospital, City Hospital, Massachusetts Charitable Eye and Ear Infirmary, McLean Asylum, Boston Lunatic Hospital, Carney Hospital, Boston Charitable Orthopedic Association, New England Hospital for Women and Children, Rainsford Island Hospital, Home for Orphan and Destitute Children, Boston Female Orphan Asylum, St. Vincent Orphan Asylum, Blind Asylum, Houses of Industry and Reformation, Home for Aged and Indigent Females, Home for Aged Colored Women, Home for Aged Men, Temporary Home for Destitute, Massachusetts School for Idiots, Home of the Good Samaritan, Home for Incurable Consumptives, Soldiers' Home, Ladies' Health Society, Boston Mutual Benefit Association, Boston Benefit Society, and Boston Dispensary; also an account of the recent sanitary inspection, of the Warren Museum of Natural History, Warren Anatomical Museum, Boston Society of Natural History; a list of the medical examiners of the life insurance companies, of the officers of the American Pharmaceutical Association, of the Massachusetts College of Pharmacy, the District Medical Societies of the State and of the American Ophthalmological Society. A brief historical account of the early practitioners of medicine in the State follows. A list is given of the medical staff in the war commissioned from Boston, and of those who received a brevet promotion. Fourteen pages are devoted to medical necrology. Last is placed a list of names, location and office hours of all qualified physicians in the city, and of collectors, makers of surgical instruments, and nurses.

A glance at the above table of contents will show how much information of daily importance to every member of the profession is brought together in this convenient little book, and we trust the editor will meet with the full success the undertaking deserves.

Cholera in Boston.—It will be seen by the accompanying letter of the City Physician to the Board of Health, that a case of cholera has occurred in this city, brought hither from New York, where it seems to be spreading in such a manner that a general outbreak is to be feared. Another fatal case is reported in Roxbury, in a person recently arrived from New York. In the meantime our city government are waiting, waiting for others to decide for them a matter which they should have settled months ago by the ample authority they possess as a board of health. Upon them alone rests the terrible responsibility of preserving in our midst such an invitation to the approach of pestilence. The late heat has carried up the mortality in one week from 90 to 129, and increased the number of deaths by cholera infantum from 6 to 38. The number of deaths in New York city was more than 1000 in three days of last week.

"GENTLEMEN,—I this afternoon received notice, through the Deputy-chief of Police, that Calvin G. Farnham, a soldier on furlough from Hart's Island, New York Harbor, had been seized with cholera on his route hither, and was lying sick at the Soldier's Rest, No. 81 Summer Street. I immediately proceeded to that place, and found him suffering with symptoms which left no doubt in my mind as to the truth of the information. He was taken sick on board the boat, and on his arrival in this city went to No. 11 Chickering Place, where he remained until his removal to the place where he died, about 9, P.M., less than twenty-four hours from the beginning of the attack. I have caused the bedding, personal clothing, and other articles which were soiled by the discharges, and which could not be disinfected without risk to others, to be burned, and trust that with these precautions, no further spread of the disease will follow.

"This instance shows how impossible it may be, with all the care that may be exercised, to protect the city from the admission of this disease by means of emigrants arriving from infected ports, to guard against an attack in the rear; and should prompt the authorities in localities where the disease prevails, as by the report of Farnham it has on Hart's Island, to exercise the greatest caution in permitting those who may be suffering from the premonitory symptoms to go out into the community, where as yet the disease has not gained a foothold. Respectfully submitted, WILLIAM READ, M.D.,

July 20th, 1866. *City Physician.*"

Messrs. Editors :—

"Quia est in eo
Virtus dormitiva."

"The Position of the Fœtus." As throughout all nature it is the general law that the fœtus lies in its mother in a position completely opposite to that of the parent, head opposite to head, feet opposite to feet, back opposite to back, abdomen opposite to abdomen, &c., and any deviation from this the exception; what need is there of twenty-two *learned* reasons for the "causes of the position"? In reading over the article alluded to, and quoted in the last number of the JOURNAL, one cannot help reflecting how nearly science sometimes approaches the burlesque, nor wholly repress a sympathy with the worthy Praeses in the play in his great admiration

"Qualis bona *inventio*
Est medici professio"!

⁂

Editorial Notices of Advertisements.—Many advertisers, whose claims are justly entitled to support and confidence, have frequently applied for editorial notices in their behalf. These applicants are informed that it is against the rules adopted, in the business management of this Journal, to comply with their requests. As is manifest, it would be unjust to others to give increased publicity to one advertisement. The entire policy of editorially directing the attention of the public to advertisements is believed to be injudicious and unjust, and when this is done for a pecuniary consideration, as is often the case, the transaction becomes morally, if not legally, criminal and offensive.—*Richmond Medical Journal.*

Urea a normal Constituent of Cow's Milk.—M. Lefort announces (*Jour. de Pharm.*, March, 1866, p. 177) the existence of urea in the milk of healthy cows. From 10 litres (2½ gallons) of this milk he obtained 23 grains of nitrate of urea, easily characterized by its crystals and by its combination with binoxide of mercury.—*Am. Jour. Phar.*

Trichiniasis in Iowa.—Dr. Asa Horr has published, in a recent number of the *Dubuque Herald*, an account of fifteen cases of this disease, five of which were fatal. It was caused by eating raw smoked ham made into sandwiches.

New Hampshire Asylum for the Insane.—From the Twenty-fourth Annual Report of the Superintendent of this Institution (Dr. J. P. Bancroft), we learn that the number of admissions for the year ending May 1, 1866, was 104—55 males and 49 females. Number in the asylum May 1, 1865, 223; removals of all kinds during the year, 91—leaving the number of inmates at the end of the year, 236. Of those discharged, 26 had recovered; 28 were improved; and 16 were not improved. This institution has recently been made the residuary legatee of the late Moody Kent, Esq., on condition of its paying annually to a relative of his, the sum of $100. The legacy has been accepted upon the terms set forth, and the amount soon to be realized will not vary much from $140,000. It is to constitute a permanent fund, and be hereafter known as the Kent Fund, the principal of which is to be kept forever unimpaired, and its income to be devoted to such purposes as the Trustees shall from time to time designate.

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, JULY 21st, 1866.

DEATHS.

	Males.	*Females.*	*Total*
Deaths during the week - - - - - -	71	58	129
Ave. mortality of corresponding weeks for ten years, 1855—1865	45.8	42.5	88.3
Average corrected to increased population - - - -	00	00	97.13
Death of persons above 90 - - - - - - -	0	0	0

DEATHS IN BOSTON for the week ending Saturday noon, July 21st, 129. Males, 71—Females, 58. Accident, 3—stricture of the bowels, 1—congestion of the brain, 5—disease of the brain, 5—bronchitis, 1—cholera, 1—cholera infantum, 33—cholera morbus, 2—consumption, 17—convulsions, 4—diarrhœa, 6—drinking cold water, 1—dropsy, 5—dropsy of the brain, 1—drowned, 1—dysentery, 4—emphysema, 1—scarlet fever, 2—infantile disease, 4—disease of the kidneys, 1—disease of the liver, 1—congestion of the lungs, 1—inflammation of the lungs, 4—marasmus, 6—old age, 1—paralysis, 1—peritonitis, 1—sunstroke, 7—unknown, 9.

Under 5 years of age, 65—between 5 and 20 years, 12—between 20 and 40 years, 28—between 40 and 60 years, 14—above 60 years, 10. Born in the United States, 92—Ireland, 31—other places, 6.

iate